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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,051	07/18/2000	Robert S. Blackmore	POU920000126US1	9648

46369 7590 02/23/2006	EXAMINER
HESLIN ROTHENBERG FARLEY & MESITI P.C.	STRANGE, AARON N

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ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
		09/619,051	BLACKMORE ET AL.
Office Action Summary		Examiner	Art Unit
		Aaron Strange	2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*12 December 2005*</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) <u>*1-3*</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*1-3*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 12/12/05 have been fully considered but they are not persuasive.

2.   With regard to claim 1, and Applicant's assertion that the Sethuram patent differs from the claimed invention because it describes the cells described by Sethuram contain headers that contain information that is "needed for subsequent processing of the data", and that this data "is not transferred in the claims of the present Applicants" (Page 5, Line 26 to Page 6, Line 7 of Remarks), it is noted that the present claims do not preclude the claimed "message" from containing a header. Applicant is reminded that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In alleged support of the above assertion, Applicants further refer to col 1, lines 33-36 of Sethuram, and assert that this section provides evidence of "further processing". However, the cited portion comes from the "Description of the Related Art" section of Sethuram and merely describes the standard handling of intermixed ATM cells belonging to several virtual circuits. Sethuram goes on to describe that this behavior introduces delays in the transmit/receive process that are alleviated by Sethuram's invention (at least Col 1, Line 63 to Col 2, Line 3 and Col 3, Lines 40-54).

Therefore, the cited section does not refer to Sethuram's invention and cannot reasonably be interpreted as describing behavior of that system.

3.   With further regard to claim 1, and Applicant's assertion that, in Gentry, "there is no writing of data directly into a user's address space" (Page 7, Lines 21-22 of Remarks), it is noted that such a limitation does not appear in the rejected claims. Claim 1 merely states that the memory locations are "application level address space locations", and the memory locations taught by Gentry meet that limitation.

4.   With further regard to claim 1, and Applicant's assertion that "there is no suggestion that these private buffers are within the user's address space" (Page 7, Lines 24-26 of Remarks), the Examiner respectfully disagrees. Gentry clearly discloses that "a program can be given access to its own pool" (Col 2, Line 48-49). In order for the program to be given access to its own pool, that pool must be in the program's address space.

Regarding Applicant's assertion that this differs from the claimed invention because "in the claimed invention user level applications (programs) automatically have access to the incoming data since it is placed directly into the user's address space" (Page 7, Lines 27-29 of Remarks), it is noted that such a limitation does not appear in the rejected claims. The rejected claims do not refer to a "user's address space" nor do they preclude the use of a private pool of buffers.

5.   While the Examiner can appreciate that differences may exist between the cited

art and Applicant's invention, the current claim limitations are fully met by the currently

cited art. In the interest of expedited prosecution, Applicant is encouraged to incorporate

subject matter into the claims that accurately and completely describes what Applicant

feels is the patentably distinct subject matter of the present application.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sethuram et al. (US 5,828,903) in view of Ayanoglu et al. (US 6,122,759) in further view

of Gentry et al. (US 5,778,180).

8.   With regard to claim 1, Sethuram shows as system for transferring data between

a network and host coupled to the network using a host adapter. The adapter is

situated between the network and host system, wherein the adapter has a DMA engine

and local memory. Sethuram shows:

transmitting incoming message from first data processing system (100-103) to a

temporary memory (fig. 2b, 204) in an adapter, which is connected to said second data

processing (host device) system (col. 4 lines 1-11);

transferring, from said adapter to said second data processing system, an

indication that said temporary memory in said adapter contains the message received

from said first data processing system (col. 9 lines 21-23);

transferring, from said second data processing system to said adapter, real

address information (virtual register mapping to the host buffer) indicating target

memory locations (host buffer) for said message (col. 4 lines 33-44, col. 4 line 57- col. 5

line 1, Note that each virtual register (VR1-VR8) maps to a free buffer (B1-B8), see col.

5 lines 15-20, fig. 3a and 3b);

transferring said message, from said temporary memory in said adapter, directly

into said target memory locations in the memory of said second data processing

system, said transfer occurring via direct memory access (col. 6 line 22-30 and 44-46);

and transferring, from said adapter to said second data processing system, an

indication that said target locations now contain the message received from said first

data processing system (col. 6 line 54-56).

While the messages received by the second data processing system in the

system disclosed by Sethuram were almost certainly acknowledged, Sethuram fails to

specifically recite transmitting an acknowledgement of receipt of said message from

said second data processing system to said first data processing system. Sethuram

also fails to specifically disclose that the target memory locations are application level

memory locations. Nonetheless, these features are old and well-known in the art, as shown by Ayanoglu and Gentry.

Ayanoglu teaches the use of acknowledgements to ensure reliability of Asynchronous Transfer Mode (ATM) traffic over a wireless transmission link. Since wireless links can have a large number of errors (Col 19, Lines 13-16), using acknowledgements to inform the sender of which packets have been correctly received is extremely advantageous. Without using acknowledgements, it is very unlikely that a transmission will be completely and correctly received over a wireless link. In the case of common services such as file transfer, losing even a single packet can render the file unreadable.

Gentry discloses a similar system wherein data is copied directly into application memory from a network interface card, without being buffered in operating system level memory (Abstract; Col 2, Lines 46-67). This reduces the overhead when copying data received from a network to memory for an application executing on the receiving system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transfer the received messages directly into application memory from the network interface card in order to reduce the data copying overhead and increase overall system performance. It would have also been obvious to transmit an acknowledgement of receipt of said message from said second data processing system to said first data processing system since it would have informed the first data processing system that the message had been completely and correctly received. This

would have been especially advantageous when sending messages across wireless

links, since they can have a large number of errors during transmission.

9.   In referring to claim 2, Sethuram further discloses the step of advancing

indicators in said first data processing system in preparation of transmitting another

message, whereby a number of messages may be sent in rapid sequence (col. 9 lines

49-55).

10.   In referring to claim 3, Sethuram shows:

establishing an association between said message and real address information

indicating desired memory locations for said memory (col. 5 lines 23-28 and col. 7 lines

26-41, Note that the virtual register can be associated with buffer on an "as needed"

basis and the size of a packet data unit is determined in order to allocate the correct

sized buffer);

transmitting incoming message from first data processing system (100-103) to a

temporary memory (fig. 2b, 204) in an adapter, which is connected to said second data

processing (host device) system (col. 4 lines 1-11).

transferring, from said adapter to said second data processing system, an

indication that said temporary memory in said adapter contains the message received

from said first data processing system (col. 9 lines 21-23).

transferring, from said second data processing system to said adapter, real

address information (virtual register mapping to the host buffer, col. 4 lines 33-44, col. 4

line 57- col. 5 line 1, Note that each virtual register (VR1-VR8) maps to a free buffer (B1-B8), see col. 5 lines 15-20, fig. 3a and 3b).

transferring said message, from said temporary memory in said adapter, directly into said target memory locations in the memory of said second data processing system, said transfer occurring via direct memory access (col. 6 line 22-30 and 44-46).

transferring, from said adapter to said second data processing system, an indication that said target locations now contain the message received from said first data processing system (col. 6 line 54-56).

While the messages received by the second data processing system in the system disclosed by Sethuram were almost certainly acknowledged, Sethuram fails to specifically recite transmitting an acknowledgement of receipt of said message from said second data processing system to said first data processing system. Sethuram also fails to specifically disclose that the target memory locations are application level memory locations. Nonetheless, these features are old and well-known in the art, as shown by Ayanoglu and Gentry.

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Gentry discloses a similar system wherein data is copied directly into application memory from a network interface card, without being buffered in operating system level memory (Abstract; Col 2, Lines 46-67). This reduces the overhead when copying data received from a network to memory for an application executing on the receiving system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transfer the received messages directly into application memory from the network interface card in order to reduce the data copying overhead and increase overall system performance. It would have also been obvious to transmit an acknowledgement of receipt of said message from said second data processing system to said first data processing system since it would have informed the first data processing system that the message had been completely and correctly received. This would have been especially advantageous when sending messages across wireless links, since they can have a large number of errors during transmission.

Conclusion

11.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within
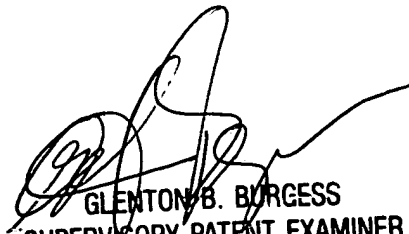
TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Aaron Strange whose telephone number is 571-272-

3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

AS 6/13/2006

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